Alliant Energy Voluntary Emission Reduction Registry

October 9, 2003

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Project Description

- Reduction of NOx Emissions
  - Edgewater Generating Station, Sheboygan, WI
  - 3, Coal Fired Units, 770 MWs
  - NOx reduced through combustion improvements

8. 20. 1999

Establishing the Baseline

- Questions to ask:
  - When did action take place?
  - What is the 24-month period before the action?
  - Do I have data for that period?
  - Will reductions be credible?
- Utilized production data and CEM data
- Determined baseline NOx mass and rate:

  Mass = Monthly Heat Input * Monthly NOx Rate

  Rate = Direct from CEM

Edgewater Unit 4 NOx Baseline

Facility	Source	Date	Heat Input mmbtu	NOx Rate lb/mmbtu	NOx Mass tons
EDG	EDG4BLR	Mar-98	2127162	1.217	1294
EDG	EDG4BLR	Apr-98	1773279	1.106	980
EDG	EDG4BLR	May-98	1253382	1.195	749
EDG	EDG4BLR	Jun-98	1564798	1.143	894
EDG	EDG4BLR	Jul-98	1950025	1.168	1139
EDG	EDG4BLR	Aug-98	1864592	1.047	976
EDG	EDG4BLR	Sep-98	1708647	1.034	883
EDG	EDG4BLR	Oct-98	1599420	1.005	804
EDG	EDG4BLR	Nov-98	1110491	1.063	590
EDG	EDG4BLR	Dec-98	1611748	1.076	867
EDG	EDG4BLR	Jan-99	1470476	1.092	803
EDG	EDG4BLR	Feb-99	1248967	1.127	704
EDG	EDG4BLR	Mar-99	1042897	1.135	592
EDG	EDG4BLR	Apr-99	1038479	1.053	547
EDG	EDG4BLR	May-99	1421017	1.099	781
EDG	EDG4BLR	Jun-99	1524507	1.060	808
EDG	EDG4BLR	Jul-99	2133606	1.118	1192
EDG	EDG4BLR	Aug-99	2136021	1.096	1171
EDG	EDG4BLR	Sep-99	1836594	1.070	983
EDG	EDG4BLR	Oct-99	1471914	1.114	820
EDG	EDG4BLR	Nov-99	1680048	1.139	956
EDG	EDG4BLR	Dec-99	1564530	1.138	891
EDG	EDG4BLR	Jan-00	1880379	1.234	1160
EDG	EDG4BLR	Feb-00	1671667	1.241	1037

Calculating Reductions

- Need to know current emission rate
- Subtract baseline rate from current rate to determine reduction in rate (RR)
- Multiply RR by current heat input to determine emission reductions (ER):

  ER = ((Baseline Rate – Current Rate)*Heat Input)/2000 lbs/ton
- Then add 'em up!!

Edgewater Unit 4 NOx Reductions

- 10,320 tons of NOx reduced
  - March 2000 through December 2002
- Obtaining management approval for registering reductions
- Completed draft VER forms submittal
  - Easy to use forms
  - Attach baseline and reduction calculations

Using Reductions

- Important to protect the baseline against future regulatory developments
- Important that the WDNR use the reductions in planning
- Utilize reductions to offset increases
- Evaluate market value of reductions:
    10,320 tons*$3000/ton =$30.96MM
- Reduction ownership can be problematic